

## KOOTENAY REGION

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### SUMMARY

Exploration expenditures in the Kootenay region in 2000, including those at the operating coal mines, are estimated to have totaled about \$6.5 million, a reduction of 7% from the corresponding estimate for 1999 (Figure 1). Of that total, approximately \$1.9 million was spent on exploration drilling for coal at, or in the vicinity of, the five producing coal mines in the Elk Valley, an increase of about 19% from 1999. This reflects renewed optimism and plans for increased production by the coal mines. In contrast, expenditures on exploration for metals and industrial minerals decreased by roughly 15% in the year 2000.

This significant reduction in activity by the non-coal sectors is demonstrated most clearly by the dramatic drop in the recorded number of individual projects (mineral, coal, and placer) to 97 from a total of 171 in 1999 (Figure 2). The total amount of exploration drilling increased from about 61 000 metres in 1999 to an estimated 70 300 metres in 2000 (Figure 3), but that, again, reflects the higher level of activity by coal companies.

In 1999, when non-coal exploration was heavily focused on a search for Sullivan-style sedex deposits in Purcell Supergroup rocks, the distribution of major projects was skewed toward the eastern part of the region. In 2000, however, the distribution was more balanced between the West and East Kootenay sub-regions (Figure 4). The search for a successor to the Sullivan mine has slowed noticeably, fewer projects were underway and only one major company, Rio Algom Exploration Inc., performed most of the recorded drilling. In fact, in the last half of the year Chapleau Resources Ltd., which has been one of the main junior company participants in the sedex search, redirected its efforts to exploration for beryllium and other industrial commodities in pegmatites that intrude the Purcell rocks. In contrast, the Salmo and Nelson areas, west of Kootenay Lake, saw increased activity in 2000. Redhawk Resources Inc. and ZincOx Resources aggressively explored occurrences of zinc oxide mineralization in the Kootenay Arc, and the Lang Group of companies were encouraged by results attained from two bulk mineable

gold prospects, Kena and Rozan, south of Nelson.

Interest in industrial minerals remained high. Progress was made in 2000 toward potential development of flake graphite and gemstone resources in the Slocan Valley, as well as barite veins at Jubilee Mountain west of Spillimacheen, and a large gypsum resource, belonging to Westroc Inc., which straddles the Kootenay River northeast of Canal Flats.

As mentioned previously, the pace of resource definition drilling at the coal mines in the Elk Valley increased in 2000. New market contracts are being achieved, optimism is high, and all the mines plan increased production in 2001. Cominco Ltd. announced that the Sullivan zinc-lead-silver mine at Kimberley, which is the only producing metal mine in the region, will close permanently at the end of 2001. All the major industrial mineral mines and quarries that were in operation at the start of the year (see Figure 5), maintained steady production through the year and no change is forecast for 2001. There were no mine closures in the region during the year, no new mines opened and none were being developed.

### EXPLORATION HIGHLIGHTS

Table 1 details major metal, industrial mineral and coal projects in the region in year 2000. The projects listed are those which involved significant expenditures on exploration drilling, bulk sampling or underground exploration work. Locations of these major projects, plus some smaller ones that are believed to have particular regional significance, are shown on a map of the region (Figure 4). There were 12 projects with reported expenditures of \$100 000 or more and one, Bull River, is believed to have spent more than \$1 million (the actual expenditure on exploration activities at Bull River is unknown and has been arbitrarily set at \$1 million for statistical purposes).

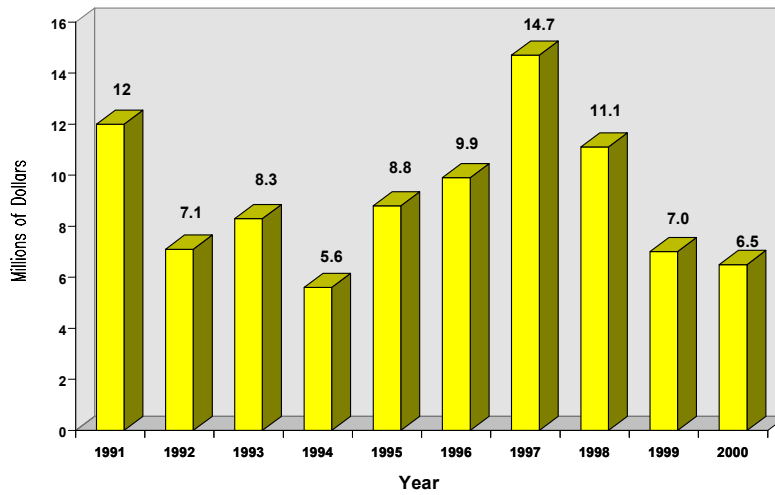


Figure 1. Exploration Expenditures, Kootenay Region.

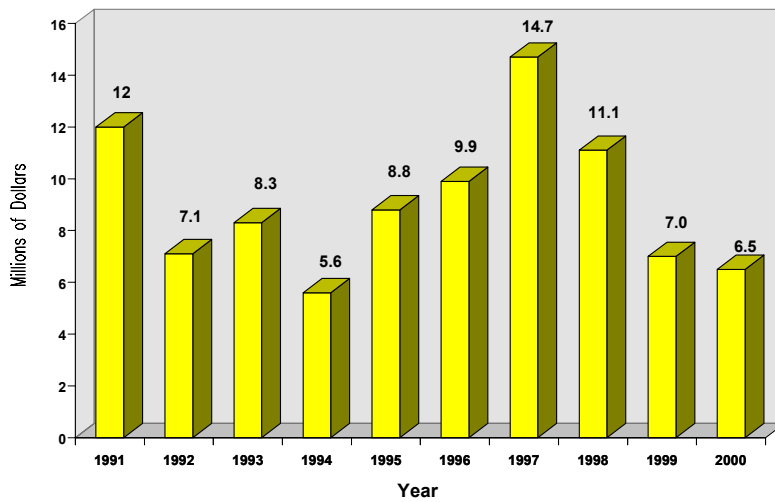


Figure 2. Exploration Projects, Kootenay Region.

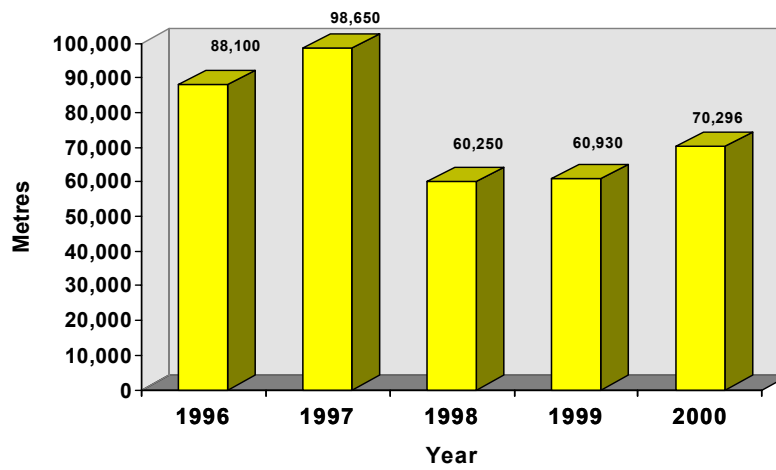


Figure 3. Total Drilling, Kootenay Region.

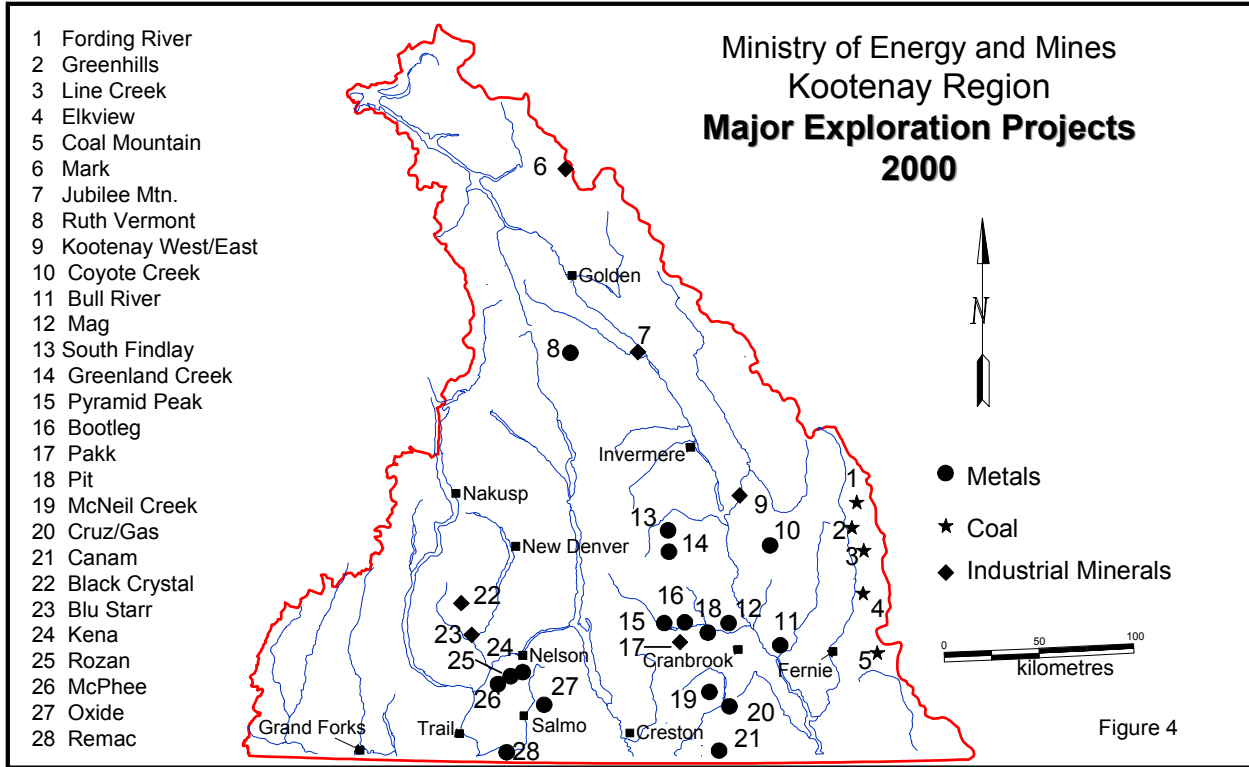


Figure 4. Major Projects, Kootenay Region, 2000.

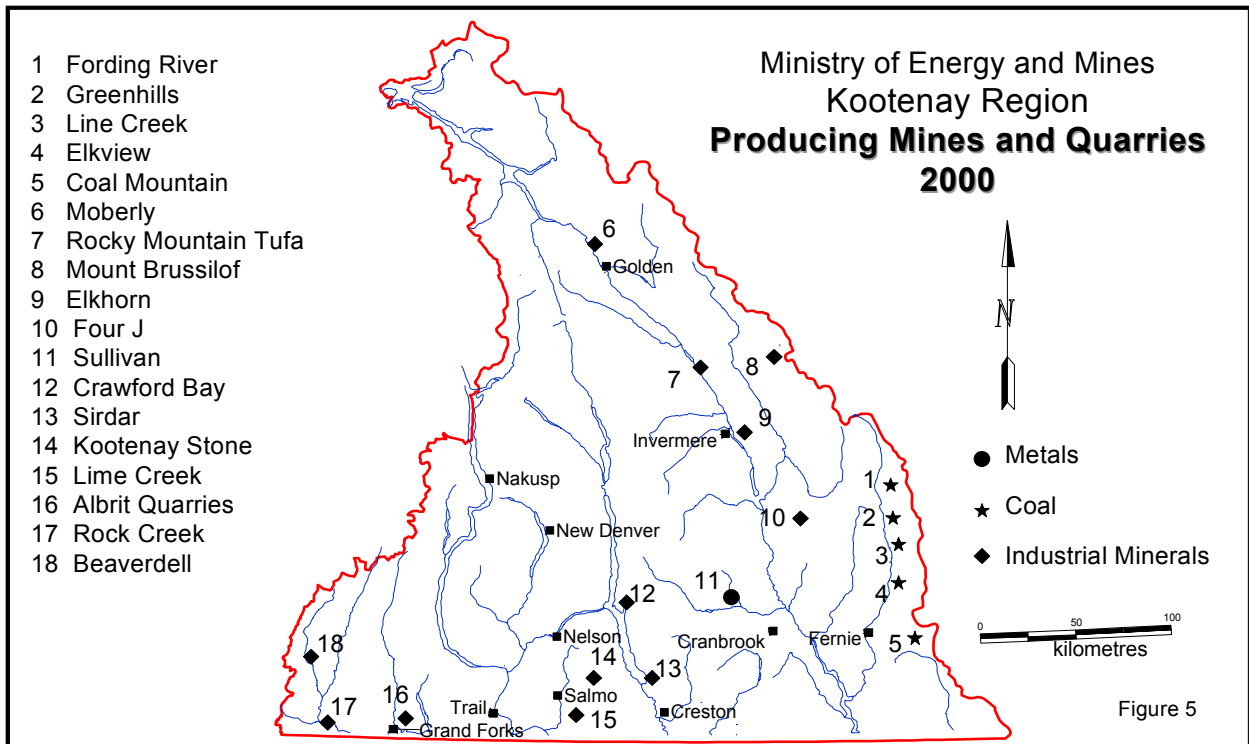


Figure 5. Producing Mines and Quarries, Kootenay Region, 2000.

Table 1. Major Projects, Kootenay Region, 2000.

Property (Operator)	MINFILE Number	Mining Division	NTS	Commodity	Deposit Type	Work Done
Black Crystal (Crystal Graphite Corp.)	082FNW260	Slocan	82F/13W	Graphite	Metamorphic	bulk samp.; geophys.; ~1000m diamond drilling
Blu Starr (Hampton Court Res./ Anglo Swiss Res.)	082FNW259	Slocan	82F/12E	Gemstones	Metamorphic	Prospecting; geol.; geophys.; bulk samp.; market testing
Bull River (R.H. Stanfield Group)	082GNW002	Fort Steele	82G/11W	Cu, Ag, Au	Mesothermal Veins	u/g drift'g & sampling;
Coal Mountain Mine (Fording Coal Ltd.)	082GSE052	Fort Steele	82G/7E, 10E	Coal	Coal	21 rcdh, 5165m
Elkview Mine (Elkview Coal Corp.)	082GNE015	Fort Steele	82G/10W, 15W	Coal	Coal	7150m rc drilling
Fording River Mine (Fording Coal Ltd.)	082JSE009, 010, 012	Fort Steele	82J/2W	Coal	Coal	6750m rc drilling
Greenhills Mine (Fording Coal Ltd.)	082JSE001, 005, 007	Fort Steele	82J/2W	Coal	Coal	4237m rc drilling
Greenland Creek (Kennecott Canada Exploration Inc.)	082FNE089, 107, 112	Fort Steele, Golden	82F/16E	Zn, Pb, Ag	Sedex	1 ddh, 295m
Jubilee Mountain (WWC Consulting Ltd.)	082KNE079	Golden	82K/16W	Barite	Veins, breccias	diamond drilling
Kena (Sultan Minerals Inc.)	082FSW237, 331, 332	Nelson	82F/6W	Au, Ag, Cu	Porphyry	trenching; geochem.; geophysics
Kootenay West/East (Westroc Inc.)	082JSW005	Golden	82J/4E	Gypsum	Evaporite	diamond drilling
Line Creek Mine (Luscar Ltd.)	082GNE020, 021, 022	Fort Steele	82G/15W, E	Coal	Coal	25 000m rc drilling
Pakk/Pit (Chapleau Res. Ltd.)	082FNE054, 061, 062, 101, 110	Fort Steele	82F/9E,W	Be, Rb, Ta, REE,	Pegmatite,	14 ddh, ~4540m
Pyramid Peak (Rio Algom Exploration Inc.)	082FNE064, 087	Fort Steele	82F/9E	Zn, Pb, Ag	Sedex	2 ddh, 1553m
Remac (Redhawk Res. Inc./ ZincOx Resources)	082FSW024, 026, 219	Nelson	82F/3W	Zn, Ag, Pb (oxides)	Sedex, replacement (weathered)	21 rcdh, ~2600m; trenching
Ruth Vermont (MineQuest Explor'n Associates Ltd.)	082KNE009, 010, 011, 037	Golden	82K/15W	Ag, Pb, Zn, Au	Vein, Sedex	5 ddh, 1050m
South Findlay (Rio Algom Exploration Inc.)	082KSE 041, 053, 063	Golden	82K/1E	Zn, Pb, Ag	Sedex	3 ddh, 2579m

## METALS

### PURCELL ANTICLINORIUM

Exploration for Sullivan-style sedimentary exhalative (sedex) zinc-lead-silver mineralization in the Purcell Mountains, the main focus of activity and expenditure in the region in 1999, decreased significantly in 2000. The search focuses on rocks of the Middle Proterozoic Aldridge Formation of the Purcell (Belt) Supergroup which occur in the core of a north-plunging anticlinorium located east of Kootenay Lake. Approximately \$1.3 million was spent on exploration for Sullivan-type targets, compared to about \$2 million in 1999. However, during 2000, more than 60% of the expenditures were by Rio Algom Exploration Inc. which carried out deep stratigraphic drilling on three properties. A few other projects were active in the play, but most involved only one drill hole or limited grassroots surveys. The decrease in activity relates mainly to difficulties encountered in raising exploration funds; there is no shortage of good targets yet to be tested. Results of much of the stratigraphic drilling done in 2000 increased the potential of some properties by providing valuable new data on which to vector a search for this elusive target.

In the Findlay block of Aldridge Formation rocks, located southwest of Canal Flats and between Findlay and Skookumchuck creeks, Eagle Plains Resources Ltd. has extensive claim holdings. In 1999, all were optioned to three major companies in three contiguous properties, and all were explored aggressively. In early 2000, Billiton Metals Canada Ltd. decided not to continue with its option on the **North Findlay** group, the northernmost of the three properties, and no further work was done. Rio Algom Exploration Inc. drilled three long holes on the **South Findlay** option (Photo 1), all of which targeted the Lower-Middle Aldridge contact (LMC), which is the stratigraphic position of the Sullivan orebody, as it had been delineated by mapping carried out during 1999. All three holes intersected the LMC and terminated in Lower Aldridge stratigraphy. Laminated greywackes immediately beneath the LMC, which are similar to the thin bedded "Sullivan facies" mudstones at the Sullivan mine, were weakly anomalous in zinc and lead. Nevertheless, based on these results, Rio Algom notified Eagle Plains that it is terminating the option. On the **Greenland Creek** property, the southernmost of the Eagle Plains holdings, Kennecott Canada Exploration Inc. intended to drill at least one long hole to test a strong zinc-in-soil anomaly believed to be underlain by Lower Aldridge

rocks close to the LMC. The hole intersected a gabbro sill from 90 to 209 metres, then entered granitic pegmatite which persisted to a depth of 295 metres, at which point the hole was terminated. Kennecott has cancelled its option agreement. Eagle Plains is now seeking new partners for its claim holdings in the Findlay block.



Photo 1. Drilling at South Findlay Project.

Rio Algom Exploration Inc. also completed modest drill programs on two adjoining properties located just 5 to 15 kilometres west of the Sullivan mine in the Matthew Creek area. On the **Pyramid Peak** property, optioned from Abitibi Mining Corp., two holes were drilled to test the Lower-Middle Aldridge horizon. Sullivan-style mudstones were reported in both holes, including a section of laminated wackes containing considerable disseminated pyrrhotite in the second hole, but it has not been reported whether the LMC was actually identified in either hole. Immediately east of the Pyramid Peak property, and closer to Sullivan, Rio Algom completed one drill hole about 600 metres long at the **Bootleg** property which is optioned from Eagle Plains Resources Ltd. Although results of the drilling have not been reported, Rio Algom has notified Eagle Plains that it is terminating the option.

Chapleau Resources Ltd. extended one old drill hole by an additional 292 metres on the **Pakk** property, which the company optioned from Super Group Holdings Ltd. The property is located south of St. Mary Lake and about 25 kilometres southwest of the Sullivan mine. The original hole was drilled by Cominco Ltd. several years ago but a recent reinterpretation of the stratigraphy suggested that it had stopped short of the targeted Sullivan horizon (LMC). Drill results have not been reported and the company carried out little further work that targeted sedex mineralization. Nevertheless, the Pakk prop-

erty is large and is still considered to be one of the highlight prospects in the Purcells for discovery of a Sullivan type deposit. The geology of the property is complex but mapping and drilling have shown that the Sullivan horizon occurs extensively at shallow depth on the property. In 1999, three new showings of massive sulphide mineralization were found by prospecting, one of them being adjacent to a large and very strong zinc-arsenic soil anomaly. All three of these new zones were tested by limited drilling late in 1999 and all gave encouraging results. However, in 2000, after extending the one hole as described above, the company re-directed its work on the property to an investigation of potentially significant quantities of beryllium and other industrial commodities within the Hellroaring Creek Stock (see a later section on industrial minerals activity). The **Pit** property, which adjoins the Pakk on the east, was optioned from Black Bull Resources Inc. Chapleau drilled five holes that targeted sedex mineralization but no results have been released.

Three small projects, each involving only one drill hole, were conducted in the area west and south of Moyie Lake. In January, Chapleau Resources Ltd. drilled a 940 metre hole on the Gas claims just south of the Moyie River. The **Gas** claims were optioned from Abitibi Mining Corp. but are being explored as part of Chapleau's more extensive **Cruz** project. The objective was to test the Sullivan horizon beneath an eight kilometre long north-trending belt of Sullivan - type alteration and vent features. The Sullivan facies was identified and found to be 53 metres thick; it contains abundant iron sulphides and is weakly anomalous in zinc. Abitibi Mining Corp. drilled a single hole on the **Canam** property, which is optioned from Cominco Ltd. and located east of Yahk, adjacent to the United States border. West of Moyie Lake, National Gold Corp. drilled one hole on the **McNeil Creek** property which is under option from Sedex Mining Corp.

### **OTHER METAL PROJECTS**

Redhawk Resources Inc., in a joint venture with ZincOx Resources plc of London, England, is exploring the zinc oxide potential of the past-producing, carbonate-hosted Reeves MacDonald and Annex mine properties. This joint venture is referred to as the **Remac** project. The property straddles the Pend D'Oreille River west of the Nelway border crossing, and is about 35 kilometres southeast of the Trail smelter. Sulphide ore, grading 10% to 15% combined lead and zinc was produced from the mines between 1949 and 1971, but the extensive,

overlying zinc oxide capping was not mined due to the lack of extraction technology at that time. The zinc oxide deposits contain zinc grades comparable to those of the primary sulphide deposits. They occur intermittently in a belt at least 3 kilometres in length and locally extend to a depth of up to 450 metres. The companies conducted a trenching and 2600-metre reverse-circulation drilling program to confirm the structural continuity and overall zinc grades of the oxidized zones (Photo 2). Among the better drill intersections were 15.43% Zn and 1.55% Pb over 5.3 metres, and 8.68% Zn and 4.27% Pb over 12.2 metres. Overall, results of the 2000 program were very encouraging, and more aggressive drilling is proposed for 2001. In addition, metallurgical testing is planned to demonstrate that zinc metal can be economically recovered from the oxides using new recovery technology developed by ZincOx. The companies also completed a large trenching program on the **Oxide** property which is north of Salmo on the ridge between Porcupine and Oscar creeks. This property, optioned from Indo Metals Ltd. with an underlying option from Cominco Ltd., contains high zinc and lead values in a deeply oxidized shear zone. The zone is up to 23 metres wide and traceable on strike for at least one kilometre. Unfortunately, assay results from the 2000 trenching program were disappointing and the option agreement with Indo Metals has been cancelled.



Photo 2. Trench sampling of zinc oxide zone, Remac Project.

South of Nelson, Sultan Minerals Inc. conducted geological and structural mapping, geochemical and induced polarization surveys, followed by excavator trenching on its optioned **Kena** gold-copper property (Photo 3). The exploration program also included logging, splitting and assaying of approximately 1300 metres of diamond drill core from the Kena Gold zone which had been left unsampled by previ-



ous operators. On the recently identified Gold Mountain zone, the company reported that three trenches contained a weighted average grade of 1.65 g/t Au over their combined length of 125 metres. The zone is underlain by the Silver King porphyry, which has a higher background gold level than that of the surrounding volcanic rocks. An I.P. survey over the zone defined a chargeability anomaly 1.8 kilometres in strike length and up to 400 metres wide. The results suggest that gold-bearing sulphide mineralization is present in both the Silver King porphyry and the adjacent Rosslund Group volcanic rocks. The company believes that there is potential for a significant bulk-tonnage gold deposit on the property.



Photo 3. Trenching of Gold Mountain Zone, Kena Project.

Also south of Nelson, another Lang Group company, Emgold Mining Corp., completed a preliminary two-hole drilling program on its optioned **Roza** gold prospect at Red Mountain. A large area of greater than 100 ppb gold in soils contains outcrops of both high grade single quartz veins and lower grade sheeted or stockwork quartz veining. One of the holes was drilled to test the down dip extent of sheeted vein mineralization exposed in surface outcrops. The best intersection in that hole assayed 1.45 g/t gold over 4.1 metres. The second hole targeted a high grade vein exposed on surface and in nearby old underground workings. The vein was intersected and assayed 60.73 g/t gold over 0.25 metres. The company is satisfied that the property has many important characteristics of classic "intrusion-related" gold deposits such as Fort Knox and Pogo, including a gold-bismuth-tungsten-molybdenum geochemical signature. The east boundary of the Roza property adjoins the Kena property being explored by sister company Sultan Minerals.

In 1999, Bruce Doyle of Nelson, while prospecting on his **McPhee** claims east of Castlegar with

funding from a Ministry of Energy and Mines Prospector's Assistance grant, discovered abundant gold-bearing quartz stockworks and veins in an area of widespread gold-in-soil anomalies over weakly altered and fractured granitic rocks. The property was optioned by Cassidy Gold Corp. which, in 2000, undertook a program of further prospecting, mapping, soil sampling, and trenching, then drilled five short holes. In the course of that work, the company rediscovered the old Maud S gold-silver mine which had extensive surface and underground workings on a series of parallel, shallow-dipping quartz veins. Chip sampling of individual veins exposed underground and in pits returned consistently moderate to high gold values, including 68.58 g/t Au over 0.10 metres and 6.07 g/t Au over 0.30 metres. Three holes were drilled in the vicinity of the original vein discovery and two at the Maud S mine. Results were inconclusive due to major disruptions of the mineralized structures by faulting and lamprophyre dikes.

Late in 2000, while funded by another Prospector's Assistance grant, Bruce Doyle discovered and staked a stratabound showing of silver-zinc-lead-copper bearing massive sulphides on a new logging road at Rover Creek southwest of Nelson. A grab sample from the showing assayed 24.59% Zn, 22.35% Pb and 556.4 g/t Ag. The showing occurs within a broad area of abundant mineralized float, and soils are anomalous in several metals, including barium. The property, called **Silver Lynx**, has also been optioned by Cassidy Gold Corp. which plans to conduct a geophysical survey of the anomalous area early in 2001. The mineral deposit type is uncertain due to limited outcrop exposure, but the host rocks appear to consist of metasedimentary and metavolcanic lithologies that are locally well brecciated, siliceous and/or baritic. The initial impression is that this is a volcanogenic massive sulphide occurrence in metamorphosed Ymir Group rocks.

Southeast of Canal Flats, the **Coyote Creek** property of Eagle Plains Resources Ltd. covers the high ground between Coyote Creek and Lussier River. Regional Geochemical Survey data released by the provincial government in 1991 showed the area to be highly anomalous in zinc, as well as nickel, molybdenum and vanadium. Zinc values in sediment samples from streams draining the property area ranged from 380 ppm to 5500 ppm. Geological mapping and detailed geochemical surveys by previous property owners, and by Eagle Plains in 1999, delineated a package of flat-lying, metal-rich Devonian black shales. In year 2000, Eagle Plains transected the stratigraphy of the black shales with two

short, vertical drill holes (Photo 4). Although the black shales were found to be uniformly anomalous in zinc, silver, molybdenum and nickel over a stratigraphic thickness of close to 90 metres, no concentrations approaching ore grade were encountered. More work is planned, however, to explore other parts of this large claim group. The claims also cover gypsum occurrences at lower elevations in the Burnais Formation which stratigraphically underlies the shales, and the company plans to investigate that potential resource. Gypsum is a major industrial mineral commodity throughout the Lussier River valley and is currently being mined by Georgia Pacific Canada Inc. at its Four J quarry which is located north of the Coyote Creek property.



Photo 4. Drilling at Coyote Creek Property.

In the northern Purcell Mountains south of Golden, MineQuest Exploration Associates Ltd. drilled five holes, totaling about 1000 metres, as part of its ongoing exploration of the past-producing **Ruth Vermont** mine and the surrounding Vowell Creek claims. The property is owned by Bright Star Metals Inc. and is believed to have significant potential for additional sedex and/or shear vein-hosted silver-lead-zinc mineralization. The Ruth Vermont mine is reported to have produced more than 17 million grams of silver, 3 million kilograms of lead and close to 6 million kilograms of zinc, with some gold, copper, and cadmium, from 163 339 tonnes that were mined prior to 1981. It is hosted in Horsethief Creek Group sedimentary rocks of the Precambrian Windermere Supergroup.

At the past-producing **Bull River** copper-silver mine, east of Cranbrook, Gallowai Metal Mining Corporation and Bull River Mineral Corporation Ltd. continued their ongoing program of exploration drilling and underground development and sampling. The mineralization occurs in several, steeply-

dipping, parallel, multi-stage quartz-carbonate vein systems, that are hosted within major shear structures that cut Middle Aldridge turbidites. For many years, the companies have been exploring the property primarily as a gold prospect, but in early 2000 they published new analyses of samples from the underground workings which indicated high platinum and palladium values in addition to the high gold values previously reported. However, independent analyses of samples collected from sulphide-rich veins both in drill core and underground workings by geologists from the British Columbia Ministry of Energy and Mines, did not confirm the high levels of gold and platinum reported by the companies.

## INDUSTRIAL MINERALS

The **Pakk** project of Chapleau Resources Ltd., located south of St. Mary Lake, was optioned from Super Group Holdings Ltd. In the middle of the 2000 field season, Chapleau optioned an additional block of claims that adjoins the east boundary of the pre-existing Pakk property. These new claims overly the Precambrian-age Hellroaring Creek pegmatite stock and Chapleau incorporated them into the Pakk project. At that point, the company redirected its primary focus of activity, temporarily at least, from Sullivan-style sedex mineralization (see earlier section) to an assessment of the pegmatite intrusion for economically significant quantities of beryllium, rubidium, tantalum, rare earths and other industrial commodities. Demand is currently high for these commodities and market prices are escalating. In the past, parts of the Hellroaring Creek stock had been explored as a potential source of beryllium and of feldspar. Prospectors working for Super Group, however, discovered numerous large beryl crystals in areas with no previous history of beryllium exploration. The stock is leucocratic, multiphase, and pegmatitic; it is about 3.5 kilometres long and 1.5 kilometres wide. The pegmatite consists dominantly of quartz, perthite and muscovite with abundant black tourmaline. Analyses of outcrop grab samples and of drill core samples acquired from areas explored in the past indicate that the stock and associated, nearby pegmatite dikes contain potentially significant concentrations of beryllium (forty-six grab samples averaged 3289 ppm), rubidium, niobium, tantalum, cesium and tin. In October, the company drilled a total of eight holes in several of the newly discovered beryl-rich areas and presently is analyzing all of the core for the various target commodities. However, much of the future work will also be to evaluate their recoverability. Chapleau also optioned the **Peg** claims from prospectors Peter Klewchuk and



Craig Kennedy. These are located near Matthew Creek on the north side of the St. Mary River valley. The claims cover three separate beryl-rich pegmatite bodies that have very similar mineralogy, and are believed to be cogenetic with the Hellroaring Creek stock. The pegmatites were originally staked and prospected by Peter Klewchuk as part of his year 2000 Prospector's Assistance grant program. Chapleau Resources has signed a joint venture agreement with Naneco Minerals Ltd. for continued exploration of all of its pegmatite prospects and intend to drill test those on the Peg claims early in 2001.

On **Jubilee Mountain** west of Spillimacheen, W.W.C. Consulting Ltd., an exploration subsidiary of Hydrotech Dynamics Ltd., continued to evaluate its optioned vein barite prospect. In 1999, the company drove two short exploration adits and shipped a few thousand tonnes of barite ore to a mill, which is owned by its parent company, at the Elkhorn barite property on Madias Creek south of Windermere. No further mining was done in 2000 but an aggressive program of surface diamond drilling tested several other veins and breccia zones on the property. A jig concentrator is being constructed at the mine site. This will enable the company to pre-concentrate the ore prior to transporting it to the mill, thereby substantially reducing trucking costs. Further underground development and bulk sampling are planned for 2001. The company also drilled a small number of short exploration holes at the **Elkhorn Barite** property.

During 2000, Westroc Inc. completed a modest drilling program to further define its gypsum resource on the **Kootenay West/East** property which straddles the Kootenay River northeast of Canal Flats. As early as 2005, the company is expected to transfer its production operations to the Kootenay River property from its present operating Elkhorn quarries on Windermere Creek.

Anglo Swiss Resources Inc. entered into a joint venture arrangement with Hampton Court Resources Inc. to continue work at its **Blu Starr** gemstone property in the Slocan Valley. The property contains numerous occurrences of star sapphires, corundum, iolite and garnet. The gemstones occur mainly in syenitic phases of the Valhalla Gneissic Complex and in feldspathic pegmatites that intrude the gneisses. In 2000, the joint venture completed additional prospecting and mapping, as well as sampling and testing of alluvial gravels on its coincident mineral and placer claims.

Crystal Graphite Corp., formerly I.M.P. Industrial Mineral Park Mining Corp. announced plans to develop its **Black Crystal** flake graphite property on Hoder Creek west of Slocan. The graphite is disseminated as loosely-bonded flakes in marbles and associated paragneisses within the Valhalla Gneissic Complex. Late in the year, the company extracted and transported the remainder of a previously permitted 10 000 tonne bulk sample to its partially completed mill near the junction of Koch Creek and Little Slocan River. It also carried out an 1181-metre exploration drilling program to better define the size and average grade of the graphite resource.

Kootenay Diamond Mines Inc. conducted a major heavy mineral sampling and testing program at its **Mark** lamproite-hosted diamond prospect in the Valenciennes River area north of Golden. Very late in the year, Skeena Resources Ltd. started preparing access trails and drill sites for a pending small scale drill test of kimberlite pipes and dikes on its **Ice** diamond prospect, optioned from Standard Mining Corp. (formerly Quest International Resources Corp.), in the Crossing Creek area near Elkford. Sampling by Quest in the early 1990's revealed that at least two of the kimberlite bodies contain isolated fragments of gem-quality macrodiamonds.

**Rocky Mountain Tufa** Ltd. continues to extract tufa from its extensive surficial deposit at Brisco and to market it at a considerable profit to alpine gardening and landscaping suppliers throughout North America. Several other occurrences of tufa and of travertine scattered along the west flank of the Rocky Mountains have been staked and are being tested by local prospectors.

The insulation and mineral wool manufacturing plant in **Grand Forks**, which has become an important employer in the Boundary area, was acquired by Rockwool International A/S from the original operator, Enertek. It is now operated by Roxul (West) Inc., a subsidiary company. Testing of potential new raw material sources is underway at several sites in the area. Pacific Abrasives and Supply Inc. is processing smelter slag from the Grand Forks dumps, mainly to produce materials for sandblasting at major shipyards and for roofing granules.

A small bulk sample of wollastonite was recovered from the **Rosland Wollastonite** property north of Rosland, and delivered to Cominco Ltd.'s smelter at Trail to be evaluated as a potential natural flux.

## COAL

There was no significant regional exploration activity for coal, apart from reverse circulation drilling at or in the immediate vicinity of the five producing coal mines in the Elk Valley. However, the amount of this on-property exploration work, as measured by expenditures and total drilling, increased significantly in response to new market contracts, plans for increased production and a general feeling of optimism at all of the mines. Total drilling amounted to 48 302 metres, up from 36 243 metres in 1999, and the total of exploration expenditures by the five mines was approximately \$1.9 million, up from \$1.6 million in 1999.

Fording Coal Ltd. completed 6750 metres of drilling at its **Fording River** mine. This included four deep holes on the northwest side of Turnbull Mountain close to but outside of the present area of mining, which is concentrated in the Eagle Mountain and Henretta pits. Fording also completed 4237 metres of reverse circulation drilling at its **Greenhills** mine and 5165 metres at its **Coal Mountain** mine. At the **Elkview** mine, Elkview Coal Corp. drilled 7150 metres and Luscar Ltd. completed approximately 25 000 metres at the **Line Creek** mine.

## PRODUCING MINES AND QUARRIES

Locations and names of the important mines and quarries which were in production for all or part of year 2000 in the Kootenay Region are shown on Figure 5. More details are provided in Table 2.

## COAL

All five of the coal mines in the Elk Valley maintained steady production through 2000, with only routine seasonal shutdowns. New market contracts have been signed or are being developed, and all of the mines are projecting increased production levels in 2001. **Elkview** Coal, for example, has forecast a production increase from 4.1 million tonnes in 2000 to 5.2 million tonnes in 2001 (Photo 5). Mine-by-mine production for 2000 expressed as millions of tonnes of clean coal are as follows:

Fording River	9.1
Line Creek	2.5
Coal Mountain	2.25
Greenhills	4.3
Elkview	4.1



Photo 5. Elkview Coal.

## METALS

The **Sullivan** zinc-lead-silver mine at Kimberley, operated by Cominco Ltd., is the only producing metal mine in the Kootenay Region. Cominco has now confirmed that the Sullivan mine will have exhausted its reserves and will close permanently at the end of December, 2001. The rate of production, about 2 million tonnes per year, is expected to be maintained through its final year. The mine has been in operation for almost a century and, since 1923 when the Sullivan concentrator started treating ore, approximately 150 million tonnes of ore grading 6.2% Pb and 5.6% Zn have been processed. At today's metal prices, production to the end of 2000 represents a total value of about \$19 billion.

## INDUSTRIAL MINERALS

All the major industrial mineral producers operating at the end of 1999 maintained production at roughly the same rate through the year 2000. Their locations are shown on Figure 5.

Westroc Inc. produced approximately 500 000 tonnes of gypsum from its **Elkhorn** quarries near Windermere. As stated in an earlier section, reserves are expected to last until at least 2005, at which time the operation will be moved to its Kootenay River property northeast of Canal Flats. Gypsum is also being produced intermittently by Georgia Pacific Canada Inc. from its **Four J** quarry on the Lussier River and shipped from the company's rail-loading facility at Canal Flats.

Baymag Mines Company Ltd. continues to ship about 200 000 tonnes of magnesite annually from its mine at **Mount Brussilof** to its processing plant at Exshaw, Alberta, where it is converted to various forms of sintered, calcined and fused magnesia. The

Table 2. Producing Mines and Quarries - 2000.

MINE	OPERATOR	PRODUCTS	PRODUCTION
Fording River	Fording Coal Ltd.	Coal	9.1 million tonnes
Greenhills	Fording Coal Ltd.	Coal	4.3 million tonnes
Line Creek	Luscar Ltd.	Coal	2.5 million tonnes
Elkview	Elkview Coal Corp.	Coal	4.1 million tonnes
Coal Mountain	Fording Coal Ltd.	Coal	2.25 million tonnes
Sullivan	Cominco Ltd.	Zn/Pb/Ag	~2 million tonnes
Moberly	Highwood Resources Ltd.	Silica	~120,000 tonnes
Rocky Mtn. Tufa	Alan Wolfenden	Tufa	~1000 tonnes
Mount Brussilof	Baymag Mines Co. Ltd.	Magnesite	~200,000 tonnes
Elkhorn	Westroc Inc	Gypsum	~500,000 tonnes
Four J	Georgia Pacific Canada Inc	Gypsum	
Crawford Bay	IMASCO Minerals Inc.	Dolomite	
Sirdar	IMASCO Minerals Inc	Crushed Granite	
Kootenay Stone	Kootenay Stone Centre	Flagstone	
Lime Creek	IMASCO Minerals Inc.	Limestone	
Albrit Quarries	Albrit Minerals Corp.	Dolomite, Quartzite	
Rock Creek	Mighty White Dolomite Ltd.	Dolomite	
Beaverdell	Quarry Pacific Ltd.	Dimension Stone (Granite)	

Silica Division of Highwood Resources Ltd. produces approximately 120 000 tonnes of high-grade silica annually at **Moberly**, near Golden, for shipment to various markets.

IMASCO Minerals Inc. processes and ships a variety of specialized industrial mineral products from its plant at **Sirdar**, north of Creston. Raw materials include dolomite and limestone both from its underground mine at **Crawford Bay** and from its small **Lime Creek** quarry on Lost Creek south of Salmo. The company also produces crushed granite and quartzite products from material mined at Sirdar and near Crawford Bay.

Mighty White Dolomite Ltd. quarries and processes dolomite at **Rock Creek**. **Kootenay Stone Centre**, near Salmo, and a few other operators in the same area, produce quartzite flagstone in a variety of colours and patterns from several small quarries, mainly on Porcupine Creek. Granite dimension stone is intermittently mined from two quarries south of **Beaverdell**; the larger one is operated by Quarry

Pacific Industries Ltd.

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